

Operation and Maintenance Efficiencies

PRELIMINARY DRAFT FOR DISCUSSION ONLY

This preliminary draft discussion paper is a work product developed by the consulting team for review and discussion by the Blue Ribbon Commission on Transportation. The contents are intended to provide the Commission members with factual background information and a balanced set of policy alternatives, including the pros and cons of these alternatives. This paper is one of a series and should be reviewed in the context of the entire series that, when taken together, present a comprehensive overview of the state's transportation system.

This discussion paper has been prepared primarily for Blue Ribbon Commission members new to these issues who wish to engage in a fundamental debate and for a more general audience of interested citizens who may wish to comment on the Commission's deliberations. This paper is intended to be provocative and to stimulate discussion of issues and options in this state. It questions the current ways of doing business, not for the sake of finding fault, but to allow consideration of other potential ways of thinking about transportation issues that might be appropriate in the future.

PROBLEM STATEMENT

For Washington state's transportation system to meet changing demand and needs in an era of limited resources, it must provide transportation services that are both effective and efficient. Some governmental requirements that might be perceived as inefficient have been instituted to achieve positive public policies. As discussed in companion papers, permitting requirements that complicate the process of carrying out transportation projects are designed to address environmental concerns, and laws governing public construction projects have been enacted to make sure that public dollars are spent fairly and with few risks. Nonetheless, mechanisms exist to enhance efficiency in permitting and project delivery without sacrificing the public policy goals behind them.

Governments across the country are using a variety of strategies to achieve greater efficiencies in operation and maintenance of transportation agencies. For example, pilot programs in managed competition for highway maintenance in other states have found service improvements and cost savings in specific programs in the range of 15 to 35 percent. Given that the total transportation investment in operation and maintenance is \$1.29 billion in Washington State, careful examination of potential efficiencies in this area is warranted.

PAPER OVERVIEW

Do opportunities exist for increased efficiency in the operation of transportation agencies in Washington State? This discussion paper describes opportunities that recent assessments of the Washington State Department of Transportation have identified,¹ but much of the discussion applies equally to other transportation agencies, including transit providers. The paper presents examples of efforts made in other jurisdictions to increase the efficiency of transportation administration, focusing on the cost-effectiveness of highway maintenance activities, as well as cost analysis and information systems that would aid in assessment and decision-making. This draft discussion paper does not address two areas that the Administration Committee needs to address in the coming months—the potential for reducing administrative and construction costs through greater efficiency.

INDEPENDENT REVIEW OF WSDOT

The Washington State Department of Transportation (WSDOT) plans, designs, builds, maintains, and operates the transportation systems that fall under state jurisdiction, including highways, state ferries, and state-owned airports. During the 1995-1997 biennium, WSDOT spent \$2.471 billion, including \$1.526 billion on highway construction, operation, and maintenance. During that period, the agency's employment totaled 6,477 full-time equivalents (FTEs).

Given this significant expenditure on highways, the Washington Legislature sought a better understanding of the costs of highway construction and maintenance programs in the state and called for a performance audit in 1997. The Joint Legislative Audit and Review Committee (JLARC) hired Cambridge Systematics, Inc., to conduct an independent review of WSDOT and report its findings to the Committee. The Committee asked the consultants to examine a number of issues regarding WSDOT's highway program, including planning, budgeting, funding formulas, costs, cost overruns, design, prevailing wage laws, environmental regulations, maintenance, and other topics. Appendix I list the 14 questions that JLARC posed.

Released in March 1998, the JLARC audit presented findings and 26 recommendations in response to questions the Legislature asked. Many of the recommendations had target completion dates of July 1999 or earlier, and WSDOT has already implemented or begun implementation of several recommendations. In response to the audit, WSDOT commented that its ongoing work addressing Year 2000 computer issues would prevent the agency from beginning work on some of the recommendations during the proposed timeframe and within its existing budget. WSDOT is due to

¹ Cambridge Systematics, *Department of Transportation Highways and Rail Programs Performance Audit*, Final Report, prepared for the Joint Legislative Audit and Review Committee, Washington (March 13, 1998). This paper does not discuss reviews of other transportation agencies in Washington State, such as the recent study assessing the three state agencies providing local transportation assistance (see Dye Management Group, Inc., *Local Transportation Assistance Review*, Final Report, prepared for the Legislative Transportation Committee, January 28, 1998). No comparable reviews exist of transit agencies or of city and county transportation agencies in Washington State.

present its status report on the audit to the Legislature in September 1999. The BRCT will review the status report to consider Wisdom's responsiveness and to gain additional understanding of efficiencies.

EFFECTIVENESS OF HIGHWAY MAINTENANCE ACTIVITIES

The discussion below focuses on state highway maintenance, but similar considerations and issues apply to maintenance of roads within the responsibility of local governments. A subsequent section on the experiences of other jurisdictions includes discussion of cities and counties in other states.

WASHINGTON STATE HIGHWAY MAINTENANCE

WSDOT's Highway Maintenance Program was funded at \$266 million in the 1995-1997 Biennium, with \$246 million allocated for direct work on the state highway system. The JLARC audit found that WSDOT's maintenance expenditures were comparable to those of other jurisdictions. WSDOT spends an average of \$10,295 per system mile, almost 8 percent lower than the nationwide average of \$11,149 per system mile. If snow and ice removal costs are excluded, WSDOT spends \$7,487 per system mile, 22 percent lower than the national average of \$9,597 per system mile. The JLARC audit also compared the composition of WSDOT's maintenance program with those in other states, and it found that the percentage spent on each category of work was largely consistent with spending in other states.²

In seeking ways to deliver governmental services more cost-effectively, many governmental agencies in the United States and abroad have examined highway maintenance services as a prime target for improvement. Most highway transportation agencies contract out some portion of their highway maintenance work to private sector contractors (also called "outsourcing"). In addition, some transportation agencies engage in "managed competition," in which private sector bids are sought for a service and compared to a bid from the public staff that currently performs the service, with the possibility of the award going to either the public or the private sector. The JLARC audit also noted that some states, such as Wisconsin, contract with counties or cities to perform state highway maintenance.

Washington State severely limits contracting out of highway maintenance. The legal environment for contracting out is complicated.³ The general rule in Washington is that, in the absence of legislative authority, a state agency may not contract with a private contractor for work traditionally performed by

² One category that was not consistent with other states was roadway surface maintenance, which accounts for 16.4 percent of maintenance expenditures, compared to a range of 20-60 percent in other states, but the audit did not demonstrate the reason for this difference. JLARC audit, pp. 4-4, 4-12.

³ The legal background is set forth in the JLARC audit, pp. 4-12 to 4-17 and Appendix 5, Attorney General memorandum (responding to audit team request for legislative intent regarding DOT's highway maintenance activities). State statutes establish a \$30,000 threshold above which highway work must be contracted to the private sector, and below which WSDOT may use state employees; but those statutes are subject to the general rule stated above. Complications include the definitions of activities covered by the terms "repair" and "maintenance."

civil service employees. In its 1978 decision in the *Washington Federation of State Employees v. Spokane Community College* case, the Washington Supreme Court held that the college had no authority to contract with a private organization to perform custodial services at a new building because civil service janitors had historically provided such services. In response to the State Supreme Court's decision in the *Spokane* case, the Legislature passed a law authorizing state agencies to contract out services that had been contracted out prior to April 23, 1979, as long as the contract does not effectively terminate or eliminate public employees (RCW 4.06.380). This Legislative action protected--but did not expand--contracting that already existed.

The JLARC audit found that Washington contracted only 2.8 percent of normal highway maintenance in the 1995-1997 biennium, less than almost all states.⁴ Declaring that "managed competition offers potential cost savings and places public and private sector providers on a level playing field to compete for maintenance work," the JLARC audit recommended enacting legislation to give WSDOT "the flexibility to evaluate and select the most cost-effective resources to perform highway maintenance." The report noted that "An environment that fairly and consistently considers the capabilities of both private sector contractors and state work forces" should be a key part of the new legislation.⁵

The JLARC audit estimated that cost savings of 10 percent of current expenditures could result, as well as potential improved service levels. The JLARC recommendation that Washington State allow contracting out followed a review of the experiences of other jurisdictions reporting success in their use of the private sector to perform highway maintenance. Some of these jurisdictions are described below.

EXPERIENCE IN OTHER JURISDICTIONS

As noted earlier, the trend in most states has been toward greater contracting out or managed competition of highway maintenance services than is done currently in Washington.⁶ States, cities, and counties have reported cost savings in the 15 to 35 percent range when contracting out or managed competition has become part of the highway maintenance program. As described in the examples below, significant performance improvements accompanied these cost savings.

⁴ JLARC Audit, p. 4-12 to 4-13. A 1993 survey comparing WSDOT's maintenance contracting activities and those of other states put Washington at 1.9%, compared to (in increasing order of magnitude) California at 0.8%; Colorado at 2-3%; Ohio at 10%; Pennsylvania at 20%; Indiana at 21.7%; Texas and Virginia at 33%; and Montana at 50%. Dye Management Group, Inc., *Maintenance Management and Administration Evaluation*, June 30, 1996.

⁵ JLARC Audit, Recommendations 10 and 11. Assuming passage of implementing legislation, the audit recommended a pilot project.

⁶ Contracting out, or outsourcing, is not limited to highway maintenance. A recent AASHTO report noted the continued trend toward outsourcing many services once performed in-house to private entities. Although the survey sought no quantitative estimates, the report stated that state departments of transportation "substantially increased their reliance on private sector design and maintenance services, and are outsourcing a wider range of support, including project management, and full facility operations and maintenance," p. 13, and suggested that the proportion of states contracting out half of their highway and bridge design work may have doubled from the 20 percent reported ten years ago, p. 52. American Association of State Highway and Transportation Officials, *The Changing State DOT*, 1998.

ESSEX COUNTY, MASSACHUSETTS

In 1992, Massachusetts initiated a pilot program of competitively contracting for all routine highway maintenance in Essex County. All routine maintenance except emergency work and snow and ice removal (85% of which was already contracted) became the responsibility of a single private contractor. The contract was performance-based, with the contractor getting paid for actual maintenance work performed according to specifications. Reports on the pilot project documented that the contractor had met or exceeded service levels over the previous year. A review by the consulting firm Coopers & Lybrand found that the direct costs of maintenance before the pilot project were \$7.1 million, and costs dropped to \$4.7 million during the pilot project, a savings of 35 percent.⁷

The success of the Essex County project led to a managed competition pilot program including all of Eastern Massachusetts, which resulted in the awarding of four contracts to private contractors and three to state highway department employees. In a report called *Working Together for Public Service*, the U.S. Secretary of Labor's Task Force on Excellence in State and Local Government through Labor-Management Cooperation found that with the award of these three contracts to public employees, labor and management alike cited dramatic improvements. These gains included not only cost savings but also a 60-percent reduction in worker compensation claims; reduced overtime and sick-time (credited to flexible, worker-designed schedules); more thorough and frequent road-sweeping and bridge-washing; and higher morale. These improvements resulted in the union workers' competing effectively with private contractors when the maintenance contracts were rebid; they retained their three contracts and again were competitive bidders on the rest of the work.⁸

IOWA

As part of a larger state initiative to introduce competition into governmental service delivery, the Iowa Department of Transportation undertook a pilot project in managed competition, which established guidelines for soliciting proposals. Under the guidelines, the proposal from the state work unit includes all direct and indirect costs that would be avoided if the function were contracted out. The state group also submits a reengineering plan of work and receives technical assistance in activity-based reengineering and proposal preparation. In addition, the public employees receive a 5 percent preference to compensate for disruption to the department and the risk associated with outsourcing the activity. Any state employee displaced by competition receives consideration for other jobs in the department or elsewhere in government and access to placement services.

Areas selected for the pilot project included paint striping, sign manufacturing, and graphics display work. Iowa DOT employee proposals were the lowest bid for the paint striping and sign manufacture, and a private contractor won the graphic display contract. The paint employees reduced costs by cutting supervisor positions, adopting best practices decisions, dissolving regional boundaries, and

⁷ See discussion of the pilot and the Coopers & Lybrand review in JLARC Audit, pp. 4-22 to 4-24.

⁸ *Working Together for Public Service*, Report of the U.S. Secretary of Labor's Task Force on Excellence in State and Local Government through Labor-Management Cooperation (May 1996), p. 27 ("U.S. Secretary of Labor Task Force Report").

streamlining fleet and equipment inventories. These changes shaved 15 percent off the budget, saving \$300,000 a year.

OTHER JURISDICTIONS

The Virginia Department of Transportation recently entered into a five-year renewable fixed-price contract for maintenance of 250 miles of interstate highway. The contractor has guaranteed a \$22 million savings on the state's cost estimates.⁹ In 1989, the Texas Legislature required the state department of transportation to contract with the private sector for at least 25 percent of its maintenance work, and it also required that the contracts save at least 10 percent. The Texas DOT estimated that contracting out saved \$10 million the first year.¹⁰ The contracting out requirement has since increased to 30 percent, with additional 5-percent increases annually until the contracting level reaches 50 percent. In Indianapolis, a cooperative labor-management relationship helped public employees match or beat private sector bids while opening many city services to competition. Public employees won 80 percent of the bids.¹¹

RECOMMENDED PILOT PROGRAM

If the Washington State Legislature passes a bill allowing managed competition, The JLARC audit recommends that WSDOT should consider a pilot project that places public and private sectors on a level playing field to compete for highway maintenance services. The pilot should be structured to develop better information on relative costs and savings and to afford a smooth transition to the new competitive system.¹² Based on the JLARC audit's estimate that maintenance contracting would save 10 percent, a WSDOT pilot project involving \$60 million of its maintenance program would save \$6 million. Following the JLARC recommendation, WSDOT has begun exploring the possibility of a managed competition pilot project for work not previously done by state employees, which would not require a change in statute.

In its *Working Together for Public Service* report, the Task Force on Excellence in State and Local Government through Labor-Management Cooperation noted that managed competition of public

⁹ AASHTO Report, p. 52.

¹⁰ JLARC Audit, p. 4-21 to 4-22.

¹¹ U.S. Secretary of Labor Task Force Report, *Working Together for Public Service* (May 1996), p. 35. The Task Force report contains information from testimony and field visits. Its scope was not limited to transportation agencies. Jonathan Brock, Presentation to the Administration Committee, July 16, 1999. Brock served as Executive Director for the task force and is currently director of the Cascade Center for Public Service at the University of Washington. He serves frequently as a neutral in labor-management relations and other conflicts.

¹² JLARC Audit, p. 4-34, and Recommendations 11 (managed competition pilot) and 24 ("Provide training to the WSDOT employees to assist them in reengineering their work approaches and empowering them to be competitive within the pilot efforts that are undertaken"). The JLARC Audit also suggested consideration of a corresponding pilot project effort in increased outsourcing of project design work, p. 8-6.

services can be controversial and divisive for labor and management. The subject can be approached fruitfully, however, if public officials give attention to the following issues:¹³

- Availability of adequate financial and performance data to measure both cost and quality and to determine whether a bid or performance represents an improvement in either. This topic is discussed further in the section below.
- Recognition that contracting out is not a panacea in itself, as is sometimes suggested. No widespread inherent cost advantage to outsourcing appears to exist. In-house services can cost the same or less than contracting out in departments where internal systems are reformed, overhead reduced, and/or the work redesigned. Quality should not be presumed lower when the government performs a task; less effective or more costly services can stem from weaknesses in management, accountability, and planning, whether in government or the private sector.
- The importance of a level playing field, with clear ground rules for comparing costs and affording public employees an effective opportunity to demonstrate their ability to deliver cost-effective and high-quality services.
- The presence of a “safety net” if changes or staff reductions result.

In addition, policymakers should consider how the savings can benefit the department or otherwise be used for transportation improvement. Mediated negotiations between labor and management can be a useful tool to help achieve the full potential of managed competition.

COST ANALYSIS AND INFORMATION SYSTEMS

One cross-cutting issue in the JLARC audit concerned how to improve WSDOT’s information systems to facilitate understanding and assessing its costs of operations. For example, the available information was insufficient to determine whether WSDOT’s approach to allocating highway design work between in-house design staff and consultants was effective. The audit recommended that WSDOT enhance its management and financial accounting systems to enable a better view of project histories throughout all phases, from design through construction.

Other reports of public sector performance, including AASHTO and the U.S. Secretary of Labor Task Force Report, also recognize the importance of access to comparable data that accurately measure cost and quality of services.¹⁴ A better understanding of costs would improve evaluation of performance,

¹³ U.S. Secretary of Labor Task Force Report, pp. 47-49.

¹⁴ U.S. Secretary of Labor Task Force Report, p. 8-9, 48, 72-73 (observing that without such data, it is hard to determine if a service is improving or performing at a level similar to other jurisdictions, or whether a private contractor offers a better alternative, but noting that that governments traditionally have not collected budget data in a way that allows such comparisons). AASHTO Report, 49 (noting that the most aggressive state approaches use “competitive delivery of services models” that assess true costs and bids from the private sector to determine whether an activity should be performed in-house or under contract).

allow comparison of operations to benchmarks elsewhere, and help to highlight cost implications of alternative project delivery methods, including managed competition and other uses of private sector resources.

The JLARC audit suggested accounting for the total costs of performing an activity.¹⁵ Though WSDOT agrees with the JLARC recommendations, the agency is awaiting funding from the Legislature to develop a new management reporting system to report costs. WSDOT has devoted its existing fund to for management information systems for accomplishing Y2K compliance modifications and systems updates. In the meantime, WSDOT has taken the approach that streamlining existing data must be accomplished first. Currently, WSDOT is engaged in a data architecture study to identify duplication and create clear and standardized data definitions for all systems the agency uses. This study will continue into the 1999-2001 biennium. WSDOT is also establishing a cost allocation plan. The plan, to be completed at the end of September 1999, will establish overhead allocations for WSDOT as a whole and for its three main functions: maintenance, construction, and the ferry system.

CONCLUSION

Governments are using a variety of strategies to achieve greater efficiencies in operating and maintaining transportation facilities. Careful examination of potential efficiencies is warranted in Washington State, which spends \$1.29 billion on operations and maintenance.

Workplace reengineering can yield cost and service improvements. Such efforts include forming project teams, setting goals, and encouraging employees, especially those on the front line, to generate ideas for reforms and innovative approaches. When carefully designed and implemented with clear ground rules, other jurisdictions have found managed competition to be an effective way to unleash creative ideas from the workforce and lead to improvements. Authorizing legislation would be needed to allow managed competition in Washington.

Establishing performance goals for efficiencies within transportation agencies can reduce costs and enhance service, as long as the goals are measurable and used for continuous improvement. To accomplish this result, effective financial accounting and management systems are essential to understanding and assessing the costs of agency operations. Lack of access to data for accurately measuring the cost and quality of services impedes the tracking of performance and the comparison of alternative ways to deliver projects and services.

¹⁵ JLARC Audit, pp. 8-3 to 8-5 and Recommendations 21 and 22. Also see discussion regarding adequate tracking and comparison of maintenance costs, at 4-32 -4-33. The JLARC audit suggested a full-cost calculation approach if managed competition is tried, in which all departmental costs relevant to an activity, including indirect costs, are estimated in a way similar to full-cost estimates by the private sector. The JLARC Audit estimated a full-cost overhead rate of at least 141 percent for WSDOT's maintenance function, as a point of departure for a more precise calculation when and if a pilot is instituted.

APPENDIX 1

In 1997, the Washington State Legislature's Joint Legislative Audit and Review Committee identified the following specific performance audit issues for examination during an independent review of the Washington State Department of Transportation.¹⁶

- A. As measured over an appropriate timeframe, is planning and budgeting for the highways maintenance, preservation, and improvement programs adequately integrated and coordinated?
- B. As measured over an appropriate timeframe, are the formulas by which highway preservation work is scheduled and budgeted adequate?
- C. How do the costs of Washington's maintenance, preservation and improvement projects compare with other states, and among regions within the state?
- D. What is the WSDOT's performance in controlling cost-overruns and delays?
- E. Does WSDOT follow a cost-effective approach in allocating highway design work between department staff and consultants?
- F. As measured over an appropriate timeframe, does the manner in which WSDOT schedules and sets priorities for improvement projects minimize life-cycle costs?
- G. How are improvement projects designed, managed, and scheduled so as to minimize traffic slowdowns during construction and to minimize risk to workers and the public? How does the WSDOT's performance in this area compare to industry standards?
- H. What is the cost impact of the current policy of requiring contractors to comply with both federal and state prevailing wage laws and to use the greater of the federal or state prevailing wage?
- I. Does the state policy of using the prevailing wage of the largest county seat for the prevailing wage of the county in which construction occurs, result in urban wages being used for a material number of rural projects, and does this policy result in the payment of higher wages?
- J. What is the overall cost impact on Washington's highways programs of having to comply with environmental requirements and regulations, and how does that compare to similar costs in other states?
- K. What is the status of WSDOT's work to implementation recommendations from past studies designed to reduce the cost impact of complying with environmental regulations, and what is the likelihood that implementation of those recommendations will achieve significant and quantifiable savings?
- L. What is the array of state highway maintenance activities, and when, where, why, and by whom are those services provided? What are the costs and quality of services? What are the experiences of other states in contracting out comparable services?
- M. Review the department's and regional offices' interpretations of the current statute (RCW 47.28.030 and 035) with regard to maintenance activities.
- N. Evaluate Washington's use of appropriate equipment and technologies for maintenance activities.

¹⁶ Cambridge Systematics, *Department of Transportation Highways and Rail Programs Performance Audit*, Final Report, prepared for the Joint Legislative Audit and Review Committee (Olympia, Wash.: March 13, 1998), pp. A1-2 – A1-7.

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